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Stories from District Muzaffargarh & District Tharparkar Pakistan

Climate Induced Migration Among Women

20
21

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Funded by the European Union



**IMPROVING MIGRATION
MANAGEMENT** IN THE SILK ROUTES

Implemented by



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Stories from Muzaffargarh and Tharparkar districts Pakistan

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List of Acronyms

ERRA:	Earthquake Reconstruction and Rehabilitation Authority
FGDs:	Focus Group Discussions
GCC:	Gender and Child Cell
GE:	Gender Equality
INDCs:	Intended Nationally Determined Contributions
LAPA:	Local Adaptation Plan for Action
NAPA:	National Adaptation Programme of Action
NAPs:	National Adaptation Plans
NCCPs:	National Climate Change Policies
NDCs:	Nationally Determined Contributions
NDMA:	National Disaster and Management Authority
SDGs:	Sustainable Development Goals
UN:	United Nations
UNDP:	United Nations Development Program
UNFCCC:	United Nations Framework Convention on Climate Change

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Key Terms

Climate change: A change of climate which is attributed directly or indirectly to human activity that alters the composition of global atmosphere and is in addition to natural climate variability observed over comparable time periods. (UNFCCC).

Climate migration: The movement of a person or groups, who predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a state or across an international border.

Reference: Warsaw International Mechanism, Executive Committee, Action Area 6: Migration, Displacement and Human Mobility – Submission from the International Organization for Migration (IOM, 2016); M. Traore Chazalnoël and D. Ionesco, Defining Climate Migrants– Beyond Semantics (IOM weblog, 6 June 2016).

Climate-induced migration: There is no universally agreed definition of climate-induced human mobility, but broadly, it refers to movement of people driven by sudden or progressive changes in the weather or climate. (ODI, UK)

Internal displacement: Refers to the forced movement of people within the country they live in. (IDMC)

Permanent migration: The regulated movement of people to a location where they then settled permanently. In the case of people moving to a new country, they would be permanent migrants when they received legal permission from the destination country, for example, a permanent resident permit. (OECD Factbook 2015-2016).

Seasonal migration: Movement by a migrant worker whose work or migration for employment is dependent upon seasonal conditions and is performed only during part of the year. (IOM)



Executive Summary

Climate change impacts women differently. However, there is a less evidence regarding the link between climate change and migration, and the impacts of climate-induced migration on women, especially young girls. The findings presented in this report highlights the drivers of migration and their different impacts based on gender in two districts of Pakistan, i.e. Muzaffargarh and Tharparkar.

According to the report, three types of migrations have been observed in both locations: temporary, seasonal, and permanent. Women face hardships when it comes to climate induced migration. Their health is impacted greatly, and they lose their unborn children during migration. They also face issues of harassment and gender-based violence. The girls' drop-out is higher as compared to boys. Women labourers are hired on very low wages. They also share the added burden of looking after their household chores, fetching water and unpaid agriculture (small landholders/under debt). The report also analyzes the problem trees of both locations, which reveals the underlying causes of migration. The report outlines recommendations on education, water availability, safe shelters, road connectivity, healthcare services, and migration management through cross border cooperation.

Another key recommendation is the need for building climate change adaptation of local communities.



1. INTRODUCTION

Three out of eight South Asian countries (Sri Lanka, Nepal, and Bangladesh) are among the top 10 vulnerable countries in terms of climate extreme events (Eckstein 2019). Climate variability such as extreme temperatures, rising sea level, immense cyclonic exposure, and water related threats are the key properties of the region (Bhattacharyya & Werz 2012; Ahmed 2009), which bring about seasonal changes. As a result, the cultivable area of the region is shrinking, ultimately decreasing the crop yield by 30 to 50 per cent (Setu 2014).

Climate extremes like droughts, heatwaves, storms, floods, etc. affect women disproportionality. With an increasing frequency of climate extremes, vulnerability of women and girls also increases because they have limited access to resources, are not part of decision-making, have no ownership of land, and are subject to systemic violence (McCarthy 2020).

The United Nations Framework Convention on Climate Change (UNFCCC) states that women, particularly the poor ones, are more vulnerable to climatic events in different perspectives. For instance, climate change multiplies gender-based health disparities since women have distinctive health needs like high nutritional requirements during pregnancy and they become more sensitive to diseases during climate change (United Nations Framework Convention on Climate Change 2018)

Though climate change is a natural phenomenon, its impacts are influenced by societal structures, and that's why the uniform impact of disaster has never been observed across gender. Human behavior plays a vital role in accelerating its impact. As 80 percent of displaced population consists of women (Halton 2018), so climate vulnerabilities are more frequently observed in women as compared to men because women represent a majority of the world's poor population due to their dependency on men. Globally, women are seen to have limited resource power, which also affects their capacity to adapt to climate change (Aguilar 2008).

In low-income economies, women are supposed to fulfil the household needs including water, food, and fuel. During climate change, women sometimes manage these responsibilities at the cost of their health and safety. Likewise, during droughts, women involved in agricultural production for their earnings have to travel to distant places, which increases the risks of injury and incidences of rape (Williams et al. 2013).

Similarly, death rate in women is also high during climate change, especially in storms and hurricanes. Generally, it is observed that pregnant women are more vulnerable to vector and water-borne diseases. In fact, limited access to resources, longstanding biases, and discrimination on the basis of gender make women more vulnerable against extreme climatic events (Levy and Patz 2015).

Research and policy both extensively recognized the effects of climate change being formed by gender (Chindarkar 2012). Amongst multidimensional impacts of climate change, migration has drawn the global scientific community's attention (Renaud et al. 2011). The gender has been viewed as fundamental to mobility studies with discussion being equivocated between understanding the impact of gender on mobility and vice versa (Borràs 2019).

Literature on gender and mobility clearly outlines the different roles and responsibilities undertaken by women and men, their varying access to resources for migration and how the migration process plays out differently for both men and women (Djouidi & Brockhaus 2011). This may help understand as to how gender rights regarding access and opportunity to resources are related, establishing social inequities, which consequently impact migration (Rothe 2017). When it comes to climate induced migrations, climate, gender and migration simultaneously focuses women as more vulnerable to negatives effects of migration due to limited resources with the least capacity to migrate (Chindarkar 2012).

The different impacts of climate change on gender are frequently discussed, but migration is largely ignored. Migration is considered a key adaptation strategy in response to extreme events of climate change.

Since women and men experience migration differently, a gendered perspective offers important guidance for the formulation of policies. It is obvious that gender plays a role in the development of migration policies and its importance was even recognized in the 2015 Paris Agreement. (Matthe 2016).

As migration involves physical and economic capacities (United Nations Population Fund 2009), so it can exacerbate existing inequalities by enhancing poverty gap and social discrimination between women and men. In this case, gender is an important factor to understand the consequences of migration (IOM 2014). Focus on male migrants may not ensure the optimum use of resources and would leave them underused, thus hindering the socio-economic development. Furthermore, on household side, it limits their abilities to develop enough resilience against the impact of climate change (Matthe 2016).

2. THE CONTEXT: WOMEN AND CLIMATE CHANGE

Globally, the climatic variability leads to multiple consequences, for instance, extreme weather events, glacier melting leading to temperature rise, and other environmental threats. These multiple incidents simultaneously affect the natural ecosystem with major variability in climate sensitive sectors like water resources, agriculture, etc. causing severe threats to livelihood, health, food security, and settlements of both men and women. However, the poor are the most vulnerable due to their weak adaptive capacity (Herrmann et al. 2005).



Moreover, research showed that climate change has triggered the existing poverty disproportionately impacting both men and women (Terry 2009) and has worsened gender inequalities. The most vulnerable impact of climate change is felt on low-income agriculture-dependent women (Buechler 2009). In particular, when it comes to developing countries, where women are seen as consumers and managers of fundamental natural resources (they are responsible for managing water, firewood, and other forest products), are intensely affected by environmental degradation. Likewise, women-dependent households in cash cropping or plantations are immensely affected by droughts and storms (Nelson et al. 2002).

The literature reveals that climate change is not a gender-neutral-phenomena, it has immense effect on 'poor, marginalized and vulnerable population groups', for instance women (Hunter and David 2009). Women

are considered more vulnerable to climatic events due to their socio-cultural interaction and weak adaptive capacity (based on low income and health status, less education and limited access to basic natural resources), hence they are disproportionately affected by climate extreme (Demetriades & Esplen 2010).

It has been observed that women not only have to work harder to make their ends meet but are also responsible for paying off their household debt. Some women pay off their loans by the remittances sent by the male members of the family, but others have to face money lenders, which increases their mental stress (Bhatta et al. 2016).

Increasing workload also forces women to take their daughters out of school and involve them in household chores at the cost of their future (Bhatta et al. 2016). It was further found that women suffer from nutritional and food deficiencies in case of extreme events like floods, droughts or any other climatic events, which result in less production. So, increasing workload and prolonged malnutrition negatively affect women's physical and mental health particularly pregnant women and lactating mothers (Bhandri et al. 2007).

Furthermore, women are to pay the high cost of extreme climatic events, with severe implications to their health, as due to their weak socio-economic status they are unable to afford medical treatment. During extreme events, women in rural areas spend most of their time in bringing water, which deprives them of participating in developmental activities. Women along with children are highly exposed to vector-borne diseases due to insufficient water supplies. Ali et al. (2006) are of the view that children and 'women are more vulnerable to health effects due to flooding'.

Ahmed et al. (2012) found that women may suffer from sexual assault and harassment in the absence of their male counterpart in Bangladesh. They further asserted that sexually harassed unmarried girls are considered social stigma and their parents have to pay a very heavy cost of it - sometimes in the form of dowry. All these events depict that climate-induced migration of men results in the security cost of their families' female members further causing mental and physical stress.

Climate-affected women migrate at the high cost of their privacy as they have to face the risk of sexual violence (Brown,2008). For many women, safe shelter is a prime concern after climatic events. Further, women have to deal with their mental health issues based on security concerns (Mitchel et al. 2007), which lead to anxiety and post-traumatic stress in migrant women. The disintegration from social setups and families also has a strong impact on women. For instance, in Nepal, men migrate to cities from vulnerable areas and in their absence, women have to become head of the family which make situation worse for women as they have to survive in adverse climatic regions (Engelman 2009).

Likewise, other developing countries, women in Pakistan are also experiencing gender differentiated impacts of climate change. In Pakistan agriculture sector being adversely affected by climate changes affects rural women, by affecting their livelihood and increasing burden of extra responsibilities on them (Lead,2016).

For instance, women from rural Sindh (Tharparkar, Thatta and Badin) are fully dependent on the male members of family for timely information and warnings during disasters. Women are also kept confined to domestic tasks of fetching water, taking care of livestock. Seasonal migration among agro-pastoral communities

increased the vulnerability of women by increasing workload (Ghaus et al, 2013).

Whilst, in Muzaffargarh during flooding the communication channel of women and girls outside the world have been dropped and their medical and nutritional needs are completely neglected, with no priority given to their livelihood and education (Asian Development Bank, 2010).

3. RESEARCH OBJECTIVES AND METHODOLOGIES

3.1 Research Objectives:

The study aims to explore main drivers of climate induced migrations and mobility in Tharparkar and Muzaffargarh districts.



3.2 Study Area and Locale

Based on detailed literature review and information regarding climate-induced migrations, we have selected two districts: Tharparkar and Muzaffargarh. These sites were selected for their vulnerabilities and exposure to risk. Description of the study sites is given below:

TABLE 01

Description of the study sites

Study Site	Description
<i>Tharparkar District Sindh</i>	Less than 206 mm annual rainfall; water scarcity; subsistence farming, mostly by small land holders; landless populations; livestock farming; labourers; frequent droughts and heatwaves; high temperature; plain and mountainous areas, but mostly desert;
<i>Muzaffargarh District Punjab</i>	Farming and small-scale agribusiness; labourers; heavy rainfall; hailstorm and droughts; increasing trends of winter, shifts in temporal and spatial rainfall patterns, decreasing soil fertility;

3.3 Main Research Approach and Method

To achieve the objective, the qualitative research method was used. However, a multi method data approach was required. To understand data regarding socio-economic impacts of climate induced women migrants, data was collected from rural and urban areas of the selected districts. Urban areas of Muzaffargarh district included Mohalla Bukhari Wala, Talkot and Taleri whereas rural areas included Ajab Arian.

At least 10 Focus Group Discussions (FGDs) from each urban and rural area of both the districts were carried out keeping in mind the representational balance in terms of disaster affected people. As many as 10 individual case studies with disaster affected women were also carried out in November 2019. Each FGD consisted of 15-20 disaster affected women of and age group from 20 to 50 years. The total number of migrants in Muzaffargarh district was 91 whereas the number was 129 in Tharparkar district. The participants, who mostly

spoke about the issue were women living in poverty or crisis situations, thus providing a close perspective of how climate change impacts a particularly marginalized group of women in the community. However, it should also be recognized that the most disadvantaged and marginalized groups in the society are expected to be disproportionately affected by the impact of climate change. This multi-method research approach was very useful to collect the desired data. A questionnaire was prepared and pre-testing was done in the field.

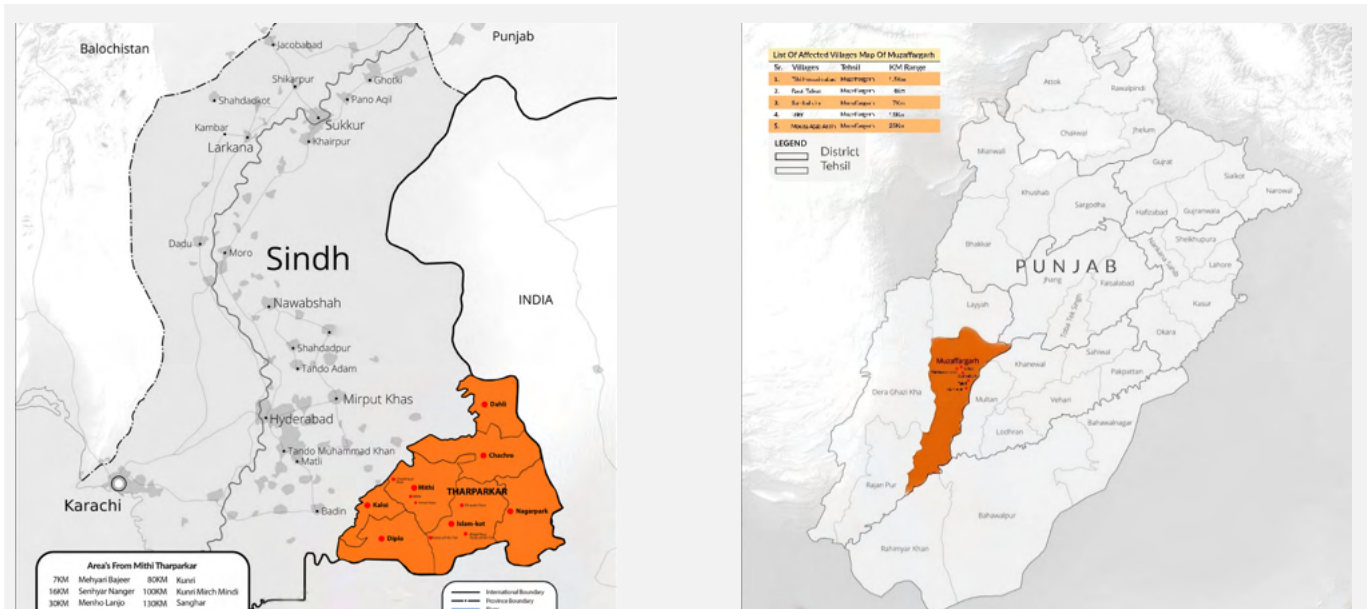


Figure 1: Study sites from District Tharparkar and District Muzaffargarh

In Muzaffargarh district, Saraiki is the local language whereas Sindhi is frequently spoken in Tharparkar, therefore, field enumerators were hired locally who were later imparted a two-day training in both the districts to reach out to the affected communities. To handle data and its analysis, excel sheets were used (Hahn 2008; Islam 2015). This enabled us to analyze data thematically in word document. Data with each method was also recorded with the consent of the respondents and after returning from the field, enumerators transcribed data and then compiled and triangulated it according to its nature, type, and characteristics. Problem tree analysis of both the study sites were also carried out.

4. RESULTS AND DISCUSSION

4.1 Typologies of Migration

The UN estimates about 740 million internal migrants around the world. The poor mostly migrate to avail better employment opportunities as well as better education and health services. Such groups usually migrate in wake of the disasters. Since migration is something very expensive and involves cost of moving, better health, food stock, and skills to readjust at a new destination, therefore, all the poor do not think of opting for migration. Some people migrate because of non-availability of fodder for their livestock whereas others migrate due to loss of their standing crops, and damage to properties including farmland and homes. Our findings show that there are people, who cannot migrate due to two main reasons.



1. Neither they have any support system at destination areas, nor any skills. Migration in such cases put

them into poverty trap.

2. Either they are under debt burden of their landlord or have been working on their fields for their livelihood.
3. In such cases, they do not dare to migrate although they are severely impacted by floods, droughts, cold and heatwaves. Many people, particularly those already vulnerable due to existing economic, political, or demographic factors, may be unable to migrate due to insufficient means, weak health or physical disabilities, absence of networks of support, social exclusion, limited political rights, conflict, or geographic isolation. In the absence of appropriate supportive policies and measures, these “trapped” communities (Black et al. 2011) become increasingly vulnerable with the passage of time, as the adverse impacts of environmental change continue to undermine their livelihoods. However, decision of migration is in the hands of family head, who are men in the study sample.

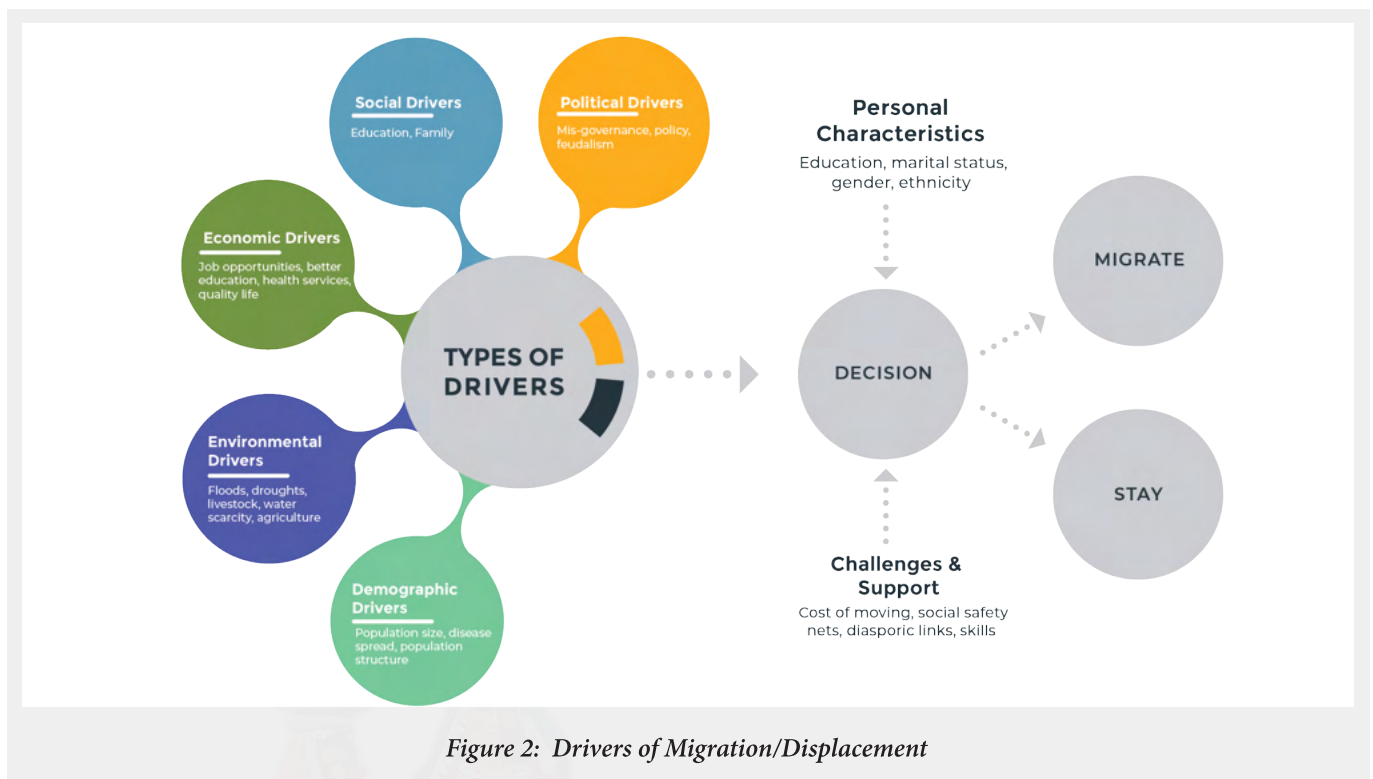


Figure 2: Drivers of Migration/Displacement

Our study of two districts finds that there are three types of migrations, i.e. permanent migration, temporary migration, and seasonal migration. In case of permanent migration, women migrate (with families) permanently from original area of residence to destination area. Bell and Ward (2000) defines permanent migration as the migration in which a person, a group or a family do not have intention to return home; it occurs in single transition. In Muzaffargarh district, most of the women (who were the part of our FGDs) were involved in this type of migration after 2010 floods.

Their homes, agricultural lands and businesses were destroyed. In fact, they were having small pieces of land and very small businesses, and were left with no option but to migrate. These families settled in urban areas of Muzaffargarh district. Majority settled in Mohalla Bukhari Wala and they were supported by their extended families and relatives. In Tharparkar district, some women migrated permanently to urban areas of Mithi and Karachi. In temporary migration, migrants of both sites stay at some locations for some time and then return to their original area of

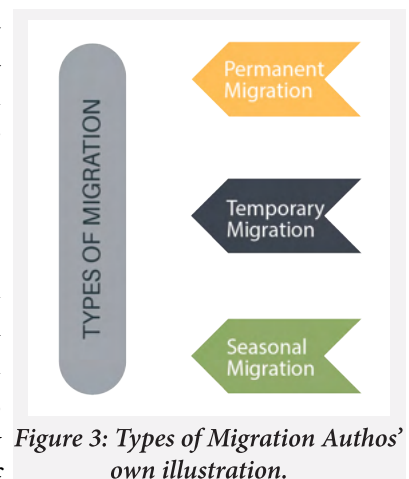


Figure 3: Types of Migration Authos’ own illustration.

residence. Bell and Ward (2000) define temporary migration as the migration which involves a return to home.

It is generally a repetitive trend. In Muzaffargarh district, migrants stayed at mosques, shrines, schools or a raised piece of land (like a ridge or dune), which is usually called tibba in local language. They stayed there for 15 days to 3 months. In Tharparkar district, migrants stayed at different locations near their original areas of residence. Third is seasonal migration. According to European Union¹ seasonal migration is the periodic movement of a population from one region or climate to another in accordance with the yearly cycle of weather and temperature changes. In Tharparkar, this migration occurs from March to June, when people migrate to Karachi and urban areas of the district. During this period, migrants find some temporary work. During rest of the year, they live in their original areas of residence and invest their most of time in agricultural activities. In Muzaffargarh district, they also migrate on similar patterns during the same months.

4.2 FINDINGS

This section represents different aspects relating to changes made in the living terms and show how do disasters intensify the vulnerability of women and how does resilience lessen it. Following that each analysis presents the main theme along with quotes taken from case studies and FGDs transcripts for better illustration. Most rural women migrants in FGDs and in-depth interviews are involved in agriculture, labour, handicrafts, and livestock.

4.2.1 Women and Health

Women in both affected districts did not get access to health facilities due to mis-governance; infrastructural breakdown for instance disaster leading to broken and flooded roads in case of Muzaffargarh; distant and incapable health clinics and hospitals facilities with no or limited paramedics staffs for instance in Muzaffargarh birthing kit for pregnant women were not available in relief camps (); limited health care units



“I was seven months pregnant when we migrated due to drought in our village (Sanghar). We migrated on camel and worked as labour to lift weight and as a result lost my infant. My family took a loan of 10,000 Rs (95.2 USD) from the landowner for meeting my health expenses. I went into depression after losing my baby.”

Rajju, 34, Sanghar, Tharparkar, Sindh, Pakistan

with limited facilities like only basic medicines were available and medicines for the most prevalent diseases such as diarrhea, respiratory infections, skin diseases and eye infections were almost unavailable. Pregnant women and elderly, specifically suffered in accessing health services as with no transportation, they were unable to go too far away areas where considerable health facilities were available.

In Tharparkar, women were faced with health issues as a result of droughts as well as cold and heatwaves. They experienced depression. and in many cases, they lost their unborn babies. Many ended up doing labour

on cheaper rates.

Rajju, who belonged to a minority group, had never gone to school. She migrated from rural to urban area of Tharparkar along with her six family members. During 2017-19, her family migrated to three locations (Two locations, Shahadapur and Kunri Mirch Mandi were 310 km and 70km away from the location of migration respectively). She had four children aging between 5 to 10 years, which made the process of migration very painful. She said her kids also got sick due to unavailability of water, food, as well as health facilities. Similar was the case with many other women migrating from rural to urban areas during droughts in Tharparkar.

“I was pregnant at the time of migration. Owing to lack of health and nutritional facilities, my situation got worse. In such a bad condition, I went to Islamkot where I delivered a baby girl, who died three days after her birth due to malnutrition. My aged mother-in-law was also with us. During migration, she fell ill and died of prolonged illness for four years. Meanwhile, we did not receive any relief package from the government. We finally took Rs 30,000 (285.7 USD) loan from a microfinance bank to make our both ends meet. However, few women received some amount through Benazir Income Support Program.”

Maya, 40, Islam Kot, Tharparkar, Sindh Pakistan

Maya was a homemaker, who worked in the fields. She said that there was no health facility at the place of migration, so when her children fell ill, she was helpless. Her cattle also died due to unavailability of fodder and water, due to which she fell into severe depression. This brought more sufferings for her family, who was also dependent on her.

Transportation of livestock is another painful step during migration. Respondents said that they had to sell their animals at cheaper rates during drought. However, some people brought their animals with them though the animals' survival rate was very low. In 95% cases, livestock died. Health of children (both girls and boys) was another challenge. During drought, children usually catch cough, as well as abdominal and skin problems. For their treatment migrants get loans and to re-pay these loans, they are working hard in the fields. To meet their health expenditures, some of the migrants said they had to sell their livestock on cheaper rates, while some others had to get loans. During FGDs, a woman participant said that his neighbor got a Rs 15,000 loan, as he was to take her pregnant wife to the Mithi city for her treatment since there was no hospital there. She said now he would pay off the loan after selling his crops. There were no health camps during drought in the area. Some respondents said that in 2017, the government had started a scheme to provide grocery items to the pregnant women for five months. Since pregnancy lasts about 9 months and they also need food post-delivery, so 5-month delivery of food items was not sufficient.

Mitchell et al. (2007) observe that women suffer more from psychosocial impacts of natural disasters than men. The extra burden of looking after their family members even when they themselves were in great distress resulted in many women to suffer from anxiety and post-traumatic stress. Temporary shelters and relief camps were not designed according to the needs of women and they faced a lot of tension during their stay in these shelters.

Drought is the main climate hazard of the area, which was more frequent in the recent past (Siddiqui and

Safi 2019). During this period, a big proportion of the farmland could not be cultivated and a large reduction in livestock population was observed (Rajar et al. 2007). The most severe drought hit the area in 1992, which prevailed for 10 years and then drought recur in 2014 and lasted for two years. In the 1992 drought, the area was declared as food insecure. More than 300 deaths of children were reported due to malnutrition and lack of health facilities during the 2014 drought (Siddiqui and Safi, 2019; Akbar and Yasmeen, 2017). Such a situation often leads to famine, drinking water scarcity, enhanced poverty, and debt burden of the rural population (Hassan 2010). The non-availability of food and water forces people to (temporary) migrate to the areas where they can access water (Akbar and Yasmeen, 2017; Hassan, 2010). A report on food insecurity assessment ranked Tharparkar district lowest in access to food index in Pakistan (Akhtar and Jariko 2018).

During FGDs, a number of women said that they cannot migrate alone, and they migrate with the family. When asked to rate from 0-5 (0= worst; 5= best) for food, water, and health facilities during migration, 91% urban respondents rated health as worst whereas 82% rural respondents agreed that health facilities were worst. For food, urban and rural respondents rated 74% and 87% worst respectively. Water was not available in most of the cases, whereas the available water was not fit for drinking. 87% rural respondents said that water situation was worst during migration. The table below gives a clear picture of the responses in terms of food, water, and health situation.

TABLE 02

Situation of facilities:

Situation of food, water & health facilities in Tharparkar						
Migrants	Food		Water		Health	
	Better	Worst	Better	Worst	Better	Worst
Urban	26.09	73.91	43.48	56.52	8.69	91.31
Rural	13.34	86.66	13.34	86.66	17.78	82.22



“During floods, I was 4-month pregnant. I got sick due to malnutrition and was referred to a city hospital for treatment. I also had other kids at that time and would give them muddy water by mixing sugar into it to feed them as a replacement of milk. I used to eat leftover food from the temporary place we were staying at.”

Kausar, 23, Mohalla Bukhari Wala, Muzaffargarh

Women in Muzaffargarh district also faced health issues due to non-availability of health care services during disaster.

Kausar is one of 4,000 people, who migrated from their villages due to the 2010 floods in Muzaffargarh. Owing to heavy flooding, her house was damaged and identity cards were lost. Her husband's card was blocked when they reached out to the authorities concerned, as someone had stolen his identity number in order to avail relief packages provided during disaster. Now he can't own any land and is facing identity crisis. It has caused many problems for Kausar and her husband. Other women along with their families took shelter in mosques, shrines, schools, and some stayed at a tibba. Most of the families migrated permanently to urban areas of Muzaffargarh district. During FGDs, participants said that they didn't have any food to eat and water to drink. They had to rely on aid given by the locals. They said they had to drink muddy water, which caused diarrhea, skin rashes, fever, malaria, and hepatitis. Cases of snake bites were also reported. Pregnant women lost their babies due to non-availability of medicines and food.



“During the 2010 floods, my father suffered heart-attack and got paralyzed due to unavailability of medicine. After six months, he had another attack and couldn't survive. He was our sole breadwinner. It caused great distress for the family comprising mother and four daughters.”

Sumbal Seema, 24, Mohalla Bukhari Wala, Muzaffargarh

Similarly, the women respondents recorded their concern against skin diseases, allergies and other fatal diseases which they have to pass through during their temporary stay at different locations. Figure 4 shows some common reported diseases in both rural and urban areas of Tharparkar and Muzaffargarh.

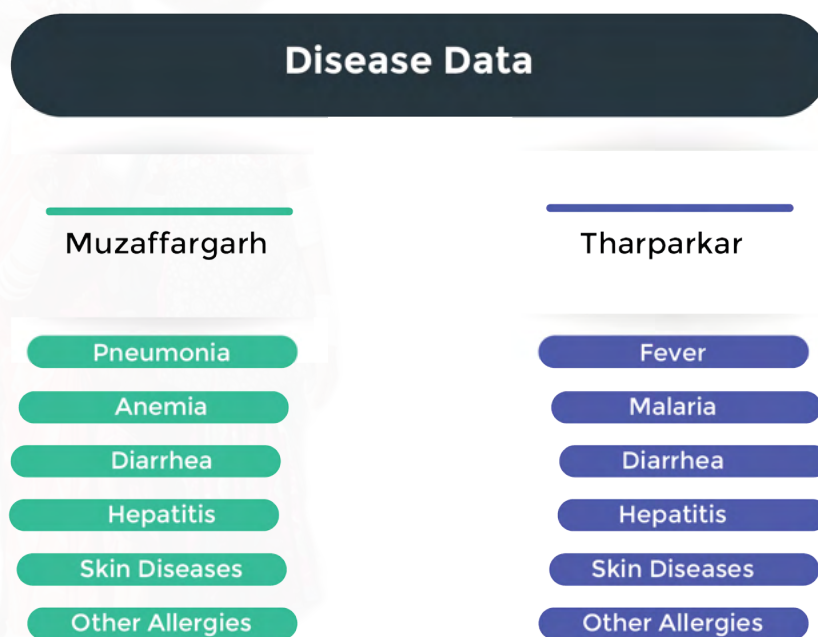


Figure 4: Authors' own illustration of diseases during floods and droughts

Muzaffargarh is located between Chenab and Indus rivers and remains on high flood risks causing multiple livelihood challenges to the population (Jamshed 2015). Devoid of any forecasting and warning systems, frequent floods often reach deep into the district from both the rivers and damage life, property and crops forcing people to displace or migrate (Ishfaq 2019; Quddus 2011). The damage is also compounded by the impact on infrastructure and access to already inadequate public services. For instance, it destroys roads, electricity supply system, crops and livestock, irrigation canals and embankments in addition to creating hurdles in accessing schools and hospitals (Jamshed 2015; Ishfaq 2019). When the respondents were asked to rate food and water availability as well as health facilities during migration, following responses were recorded. 100% rural respondents agreed that health facilities as well as water availability was worst, which they suffered a lot at each location of migration. 60% urban respondents rated food availability worst as they were not having support system in most of the cases. In some cases, support was provided by the families staying in urban areas, and they provided them with food, water, and temporary stay in their homes. Most of the respondents in both cases didn't receive better care in terms of food, water and health facilities.

TABLE 03

Situation of facilities:

Situation of food, water & health facilities in Muzaffargarh						
Migrants	Food		Water		Health	
	Better	Worst	Better	Worst	Better	Worst
Urban	40 %	60%	40%	60%	35%	65%
Rural	55%	45%	0%	100%	0%	100%

4.2.2 Social Roles and Responsibilities

Women have to perform added responsibilities in every disaster. They are not only responsible to fetch water for household chores but also have to look after their livestock and children in Tharparkar district.



“When we had to migrate due to drought, my husband got sick. At that time, I had no money for his treatment. So, I took had to borrow Rs 15,000 (142.8 USD). In order to re-pay the loan, I had to work at a kiln for four years where I was paid Rs 400 (3.8 USD) per 1000 bricks (which is too low amount for this time-consuming hard work). By the time we came back our houses had damaged.”

Deeme, 45, Malook Mehar, Tharparkar, Sindh

To help their men, they also end up doing labour.

In addition to taking care of household chores, Deeme looks after her husband and six other family members. When her family came back to their original destination, again, they had to take out loan to rebuild their house, which had got destroyed in their absence. To repay this new loan, she had to work in the fields of the landlord. Migration in case of Deeme made her poorer. Another woman respondent said:

“I used to work in the fields and harvest cowpea and millet during pregnancy. Unfortunately, the pregnancy ended in miscarriage at six months. The landlord gave Rs 1000 (95.2 USD) to my husband, who took me to Mithi where I got treatment in civil hospital. Now, I had to work in his fields to repay his debt back.”

In Tharparkar district, women are mainly engaged in agriculture, labour, livestock care, and local handicrafts (Rilli art). A majority constitutes agricultural labor force, but they are underpaid, undervalued, and overworked. Decreased water availability due to climate change affects women working in agriculture. A woman respondent narrated the story how her kids suffer when she was busy harvesting wheat.

“When we migrated to Shahadpur (village), I left the children in the hut and departed for harvesting wheat. Meanwhile, the children were playing outside, when a motorcyclist hit one of them and injured him. We borrowed money for his treatment from the landowner.”

Climate change is affecting the fertility of soil, hence rural women are worried about the fertility of their land.

“Our cultivated land destroyed after drought. A piece of land from which we used to get 50 Munds (1,866 kilograms) of pearl millet, cowpea, green gram before drought has now reduced to 20 Munds (746 kilograms). We do not cultivate our land as we don't have the knowledge to make the barren land fertile. We are not sure whether seeds will grow or not even after getting soil fertility.”

Additional burden of looking after their families makes women mentally sick. They are often seen depressed and found in pre- and post-partum conditions. During migration, women also have to help out elderly, children, and other family members. This additional responsibility causes in them further distress.

4.2.3 Women and Decision-Making

Rural women have no say in decision-making, whether it is about household or the migration because she is not considered the family head. Owing to patriarchy, it is men who decide everything, and women had to follow. In the FGDs and in-depth interviews conducted for the study. It was revealed that 100% women have no say in decision-making. It also involved cases in which women were left behind and other family members, mainly men, were migrated internally or internationally for a job. Even in such cases, women can't decide where to migrate, if there is flood or drought. It is out of the question for a single woman to move without any of her family members. The reason for not having power to decide is that women in rural and even in urban migrants are not literate. There were very few respondents who went to school. One of the respondents, while discussing during FGDs, said that the decision to sell seeds during drought was of her husband. She said:

² Names have not been mentioned due to confidentiality.

“We had to sell the seeds, which we had during drought, at a very low rate of Rs 1000 due to illness and shortage of money. Later we bought the seed at Rs 4000.”

Owing to their economic dependency on men, women have to abide by every decision of men so as to keep the home environment peaceful. There was a single case where a man had given decision-making to his wife, as he was unable to earn due to heart attack, so the woman had to do a job. Sumbal, a 23-year-old girl, looks after her mother and four sisters. After migrating from Multan to Muzaffargarh city, they started labour work. She said:

“Soon after migrating here (Muzaffargarh), we even sold flowers on the day of Eid (holy festival of Muslims) because we had no money to celebrate Eid.”

Sumbal’s maternal uncle supported their stay at the destination. After one year, her mother got the job of a lady health worker. Sumbal completed her studies at her own by extending private tuition to children at home. After her graduation, she launched a startup (a stitching school) with the help of the Benazir Income Support Programme. When the business flourished, the sister of a local Member of National Assembly (MNA) took control of the startup misusing powers of her brother. Sumbal had to step back because she was not so powerful. She said: “It came as a shock. I failed to understand that how someone can snatch your hard work... simply because they are powerful, and I am weak.”

She never thought of another startup. Now, she is doing a private job at a multinational to support her younger sisters. Given the power of decision-making regarding climate-induced migrants, women can change the economic status of their families. But unfortunately, in most of the cases, women have no power to decide.

4.2.4 Women and Education

The respondents in both study sites did not send their children to schools either because of access problem or lack of resources. In Muzaffargarh, a woman participant said:

“After the 2010 floods, we moved to city (Mohalla Bukhari wala) with the help of our relatives. Everything, including result cards of kids, got lost during floods. The school is away from here. Girls stay at home because we can’t bear the expenses of school van. However, boys go to school on bicycle.”

In a largely patriarchal society, gender relationships face multiple challenges. Women’s access to health and education is mostly limited compared to men, which is evident from a large gap in boys and girl’s literacy rate or schooling years (Sikander and Shah 2010). Although, women receive a certain share of inheritance from land and property, mostly they are devoid of any physical and financial control or benefit (Mohmand and Gazdar 2007). Like other districts of Southern Punjab, women are the key agriculture workforce in Muzaffargarh. Women belonging to lower class (mainly landless) usually work in the fields, pick cotton or raise livestock (Mohmand and Gazdar 2007). With an access to education, media (mostly TV) and job opportunities, women empowerment in term of self-esteem, decision-making, mobility and control over resources have improved in

the district (Baig et al. 2018). A respondent from rural Muzaffargarh said:

“The most stressful impact of climate induced disasters can be seen on our children’s education. The unavailability of teachers has ruined the school infrastructure and no access to routes has suppressed their desire for education, which is their basic right also.”

The provision of education and health in rural areas needs to be taken into consideration, given they are an important reason why people migrate (Deshingkar 2006). In many cases, displaced women are forced to push into labour-intensive and low-paying jobs due to their low levels of education. It was evident from the FGDs and KIIs of both urban and rural women migrants of Tharparkar district where, not a single woman ever enrolled. Disasters significantly affect school going girls. A young girl from Muzaffargarh narrated her experience that how flood impacted her studies.

“It was my last year of high school and I was supposed to appear in Board exams. Suddenly, floods inundated the area. We lost everything, including our house, fields, and livestock. When we settled back, my parents arranged my marriage. Had the situation been normal, I could have done my graduation to go for a better future”.

A woman from urban area of Muzaffargarh district said:

“Schools of our children are situated at far-off areas, so they have to travel by autorickshaw. Sometimes, when I have no money, they have to miss their school.”

In Tharparkar district, girls do not have access to school in most of the cases. Most of the respondents were seasonal migrants, who keep on changing their place throughout the year due to which their children’s education suffer.

4.2.5 Women and Safety

Brown (2008, p. 34) states that just like other internally displaced women, climate-induced women migrants are at a greater risk of sexual and gender-based violence. It is evident from the FGDs and KIIs that the primary concern for women who migrated due to floods or drought, was their safety at the place of stay. Most of the women stated that they didn’t have safe shelters. As shown in the Table 4, 83% urban and 70% rural women migrants ranked their shelters worst. Women took shelter in mosques, shrines, and schools. Only a few urban migrants stated that shelters taken over by the Pakistan Army had better facilities and were comparatively safe. Discussing about the safety of rural migrants of Muzaffargarh district, they said that cases of abduction and rape occurred when they were temporarily staying under the sky. They said the locals mixed addictive drugs in food items, and raped young girls. It had happened to those families, who have no male member with them at the time of migration. A woman respondent from Muzaffargarh said:

“Floods and droughts made us vulnerable in all possible aspects. We had so many challenges to face, but the worst part was that we had no privacy during our temporary stay at various location. Many people who apparently helped us later raped our daughters.”

During the discussion, women also pointed out sanitation problems. During floods and droughts, women had to go for open defecation. This had exposed them further and harassed. 78% urban and 89% rural women migrants rated sanitation worst in Tharparkar district.

TABLE 04

Situation of District

Muzaffargarh District				
Migrants	Shelter		Sanitation	
	Better	Worst	Better	Worst
Urban	17.5%	82.5%	22.5%	77.5%
Rural	30%	70%	0%	20%

TABLE 05

Situation of District

Tharparkar District				
Migrants	Shelter		Sanitation	
	Better	Worst	Better	Worst
Urban	30.43%	69.56%	21.74%	78.26%
Rural	11.11%	88.89%	11.11%	88.89%

A majority of women and young girls didn't have basic items like sanitary pads during their periods. Some respondents said that during disasters, they did not have napkins during their special days, which caused great depression. Neither they have access to the sanitation facilities nor have any privacy. In addition, too much and too little water was a problem during these days.

4.2.6 Women and Water

In both districts of Muzaffargarh and Tharparker, too much water and too little water is the issue. According to a study², the average distance of a well is one kilometer from households, and it takes around an hour for a round trip for women to fetch water. At least 90 liters of water are required daily for domestic use such as cooking, drinking, and washing. This suggests that women in the village have to undergo two to three round trips per day to meet the minimum possible household water consumption requirements.

² KAP Baseline Water Status in Targeted Villages. Water Aid

The wells are unprotected and insecure for women, children, and livestock in the village. Drinking of this water badly affects the health of women and children. In case there is no rainfall in the area, this situation becomes worse and has serious implications for the people of Tharparkar and their livestock. In the FGDs, women participants informed about the issues they face when they go to fetch water. They said the safety of their children is compromised because there is nobody to keep an eye on them at home. A woman said:

“One day I went to fetch water, leaving my children at home. My younger son went out to play in the street. Suddenly, a motorbike hit him, and he got severely injured.”

In Tharparkar, 79% of water is brackish whereas only 31% water is fit for drinking purpose. During FGDs conducted with women, it was revealed that communities were consuming brackish water that has high level arsenic and fluoride. These two chemicals cause bones, joints, and dental problems.

Water unavailability also causes problems for agriculture. Monsoon is the peak season to harvest in Tharparkar where agriculture is highly dependent on monsoon rain. Since women (and men) lack capacities to store water, therefore, their crops are damaged due to droughts in the area. During FGDs, 86% respondents didn't have access to clean drinking water in rural Tharparkar whereas 56% respondents in urban area rated it worst (refer to table 6 below).

TABLE 06

Situation of Water

Tharparkar District		
Migrants	Shelter	
	Better	Worst
Urban	43.48 %	56.52 %
Rural	13.34 %	86.66 %

During FGDs, 100% rural respondents in Muzaffargarh shared that they didn't have access to clean drinking water during migration and disaster whereas 60% urban migrants' rate it worst (refer to table 7 below). Too much water in Muzaffargarh district is also an issue. During floods, women face skin diseases, diarrhea and other water borne diseases. At times of floods, women do not have clean drinking water and rely on muddy water for drinking.

⁴ Kumar, 2017

⁵ Brahman et al., 2016

TABLE 07

Situation of Water

Muzaffargarh District		
Migrants	Shelter	
	Better	Worst
Urban	40 %	60 %
Rural	0 %	100 %

5. PROBLEM TREE ANALYSIS

The problem tree analysis of Tharparkar district reveals a variety of reasons behind migration. Main reasons remain non-availability of water, healthcare services and loss of livelihood. Loss of livelihood is because of droughts and non-availability of fodder for livestock.

PROBLEM TREE ANALYSES WITH A FEMALE GROUPS IN DISTRICT THARPARKAR, SINDH

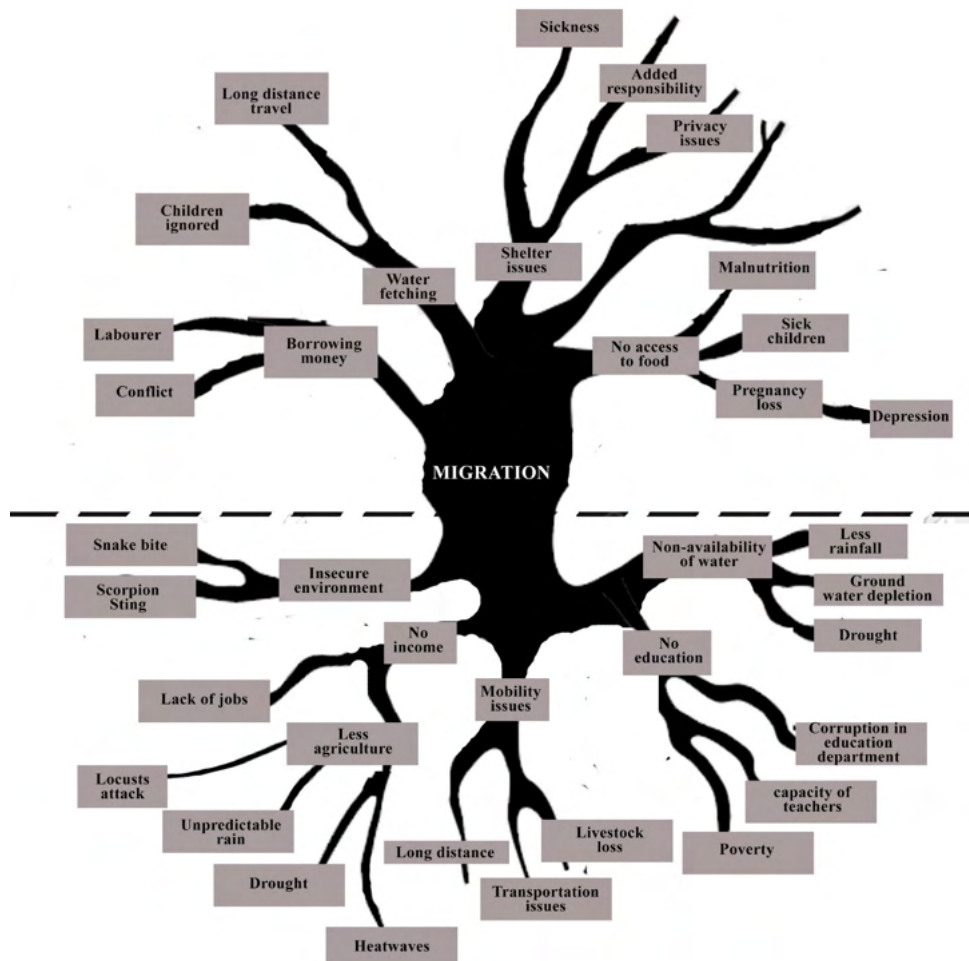


Figure 5: Problem Tree analysis with a group of women from Tharparkar district, Sindh

on the lessons and practices Pakistan can learn from other South Asian countries.

Many countries have formulated their climate change strategies and policies as per guidelines of the United Nations Framework Convention on Climate Change (UNFCCC), for instance, Intended Nationally Determined Contributions (INDCs), National Adaptation Programme of Action (NAPA), National Adaptation Plans (NAPs) and National Climate Change Policies (NCCPs) and Frameworks, which emphasize their national commitment to deal with climate change related consequences.

INDCs depict the processes by which countries can attain their national commitments relatable to climate change mitigation and adaptation in agriculture and other associated sectors with the engagement of stakeholders from national, regional and local public and private entities. The inclusion of gender in the policies of agriculture-based women dependent countries, can help them to mitigate and adapt actions in agriculture (Paudyal 2019)

United Nation Development Program (UNDP) evaluated the INDCs integrated with the gender of 161 countries with regard to Gender Equality (GE), the role of women in adaptation (in term of capacity development, programming) and mitigation (relative to livestock, biomass energy, etc.), identifying women as agents for addressing climate change in INDC, women empowerment through climate change policies and actions and recognizing particular challenges faced by women in the context of violence and access to basic needs (Huyer et al. 2016).

The gender analysis of INDCs (now Nationally Determined Contributions (NDCs) reveal that many of Asian economies have not mentioned gender or women in climate change particularly, though some economies have mentioned gender as part of their Sustainable Development Goals (WEDO,2016).

Among selected South Asian countries, a few have mentioned gender in detail in their INDCs. For instance, India along with its commitment to conservation of nature also addresses gender equality and women empowerment and incorporated in its INDCs a section titled: 'Citizens and private sector contribution to combat climate change'. Similarly, Nepal through its Biodiversity Strategy and Action Plan (2014-20), has incorporated women, local communities, and other disadvantaged social groups in reference to their legitimate rights. On the contrary, Pakistan and Bangladesh haven't mentioned women or gender equality in any context in their INDCs (Day et al. 2016).

When it comes to NAPA, only Nepal and Bangladesh have developed their NAPAs while Pakistan and India have yet to establish them. The Nepal's NAPA covers gender specific projects by recognizing gender specific vulnerabilities and acknowledging women as the most vulnerable group. The NAPA also focuses on gender dimensions of climate change through inclusive actions of adaptation and mitigation; it generally recognizes the most vulnerable people, groups and communities and stresses on the significance of gender mainstreaming (UN 2015).

Likewise, NAPs of Nepal cover nine thematic areas, viz. gender, food security, agriculture, public health, urban settlement, and climate-induced calamities (GoN 2015). Besides NAPA and NAP, the Local Adaptation Plan for Action (LAPA) of the country institutionalized local adaptation with the key objective to capture needs of local community. More specifically, it focuses on women and ethnic groups. Furthermore, the

advocacy work done on integrating climate adaptation actions into local planning processes actively promoted the participation of women at district and community level (UN 2015).

Similarly, revised NAPA of Bangladesh in 2009 covered all the adaptation needs in different sectors, including gender and in order to resume the natural mode of living of affected people, they are facilitated under the Disaster Management Act of 2012 (Rabbani et al. 2017).

Advocating women's leadership in climate change planning requires the involvement of gender or women's institutions in key policies and implementation bodies (Huyer et al 2016). In order to facilitate the climate affected women, NCCP adopted the gender-based policy measures, for instance mainstreaming gender in national and regional policies of climate change; reducing women's vulnerabilities of basic need in response to climate change; establishing gender sensitive indicators for adaptation; incorporating women's role in decision-making process of climate change mitigation and adaptation strategies and many more (GoP 2012).

The NCCP of Pakistan primarily focuses on low-income gender-responsive adaptation and mitigation to the extent possible in a cost-saving manner (Mumtaz,2018). Although the climate change policy of Bangladesh has acknowledged women as vulnerable, but it has not included them in their operational policies. For instance, the gender and reproductive health policies don't incorporate the impact of climate change. Though National Women Development policies promote the role of women in environment management and ensure the availability of proper health facilities to women in occurrence of natural disasters (Shabib and Khan 2014).

However, India and Nepal are still lacking in removing gender disparities. NCCPs of India and Nepal have not yet addressed the gender dimensions (Mainly, 2012 and Roy, 2018). Furthermore, the National Disaster and Management Authority (NDMA) has formulated Gender and Child Cell with focus on livelihood training and awareness programmes for women particularly women headed households (NDMA, nd. but still there is a need to mobilize the vulnerable women groups against climatic disasters. More focus should be given to rehabilitation and recovery measures which may help people to uplift their living standards by acquiring basic skills, providing cash for work programs and compensation for present losses to combat with future calamities.

For instance, Earthquake Reconstruction and Rehabilitation Authority (ERRA) formulated its Gender policy for earthquake affected areas in 2007 with a major focus on agriculture, housing, water and sanitation, transport, health, and urban development. The key goal of the policy was to empower women socially and economically to promote gender equality. (Ouellette and Ummar, 2009). Similarly, in Kashmir and FATA, the Disaster Management Authority established 'Gender and Child Cell (GCC)' to prioritize and integrate disaster response strategy for vulnerable groups of women and children (Khan and Shaw, 2015).

The NDMA also signed Memorandums of Understandings (MoUs) with Care international Pakistan, and Centre of Excellence in Gender Studies for addressing gender in emergencies and building resilience in the country, specifically in disaster scenarios and strengthening capacities of government officials with respect to gender based issues (NDMA 2017).

In some of the schemes, women have been given due chance to contribute economically at home. One such programme is 10 billion Tree Tsunami Afforestation project in which women are also growing nurseries

and selling it for massive afforestation in the country.

Ehsaas Emergency Cash under Benazir Income Support Programme (BISP) of Pakistan is providing cash to the one (men and women) below the poverty line. So far, 12 million families had been given cash. The amount of cash per family is Rs 12,000 (\$77.74). Currently Ehsaas Emergency Cash program has been planned in the context of the economic hardship being experienced by the vulnerable due to the ongoing coronavirus crisis. The currently stalled economic activity affects daily wage earners and piece-rate workers, the most. In addition, layoffs in the formal economy are pushing people below the poverty line.

Conclusion

This study ascertains multiple repercussions of climate change impacts on the rural and urban women. Loss of livelihoods due to frequent floods or droughts gives rise to migration in multiple directions, which has both negative and positive outcomes. Owing to extreme weather events, women are affected differently as they do not have access to natural resources, doesn't own land, have added roles, are unhealthy and poor, and do not have adaptive capacities which compel them to migrate.

According to the study's findings, women (along with family) migrate due to environmental, social, economic, political and demographic drivers. The types of migration include temporary, permanent, and seasonal.

During and after migration, women face a lot of challenges. Their health is affected due to non-availability of food, water, and transportation. Many pregnant women face loss of unborn babies during migration. They also experience depression and suffer from waterborne diseases such as diarrhea, skin diseases, snake bites, anemia, etc. Women also have to fulfil some added responsibilities like taking care of family, household chores, unpaid agriculture and fetching of water for domestic use. Despite performing all these roles and responsibilities, they don't have a say at home, especially the young girls, who don't have access to school and remain illiterate. On the contrary, migrating women expressed their dissatisfaction in terms of access to health care, water supply, shelter, sanitation, and availability of food at destination (urban) areas. In some areas, they said they have better access to health and education facilities than their areas of origin. It may be a positive aspect of migration, but one of the bad consequences is that they can't send their daughters to schools for one reason or the other.

7. Recommendations

Following recommendations are made to address the challenges women face due to climate induced migration.

Local

- In Tharparkar and Muzaffargarh districts, women should be imparted training on information technology so that they might access online platforms to sell their handmade products (such as embroidered shirts and caps, traditional clothes), and offer online tailoring services. Women of both areas have excellent skills in sewing, embroidery and hand made products, but they lack market access, therefore, earn very little and often paid less. This is important to make their economic condition better and if they start contributing to the earnings she will have a say in decision making.
- There is a need to launch awareness campaigns on climate change impact for the communities at grass roots level so that people can make arrangements what to do at the time of disasters.
- There is a further need to invest in the poor communities' adaptive capacities and resilience building so that they can fight the climatic events instead of roaming or migrating from one place to another.

- Miscarriages often occur due to women's poor health conditions and mobility during migration. After 18th constitutional amendment, health is a provincial subject, therefore, Punjab and Sindh governments should provide health facilities to women especially the pregnant women during and post disaster. Some make-shift delivery services may be provided to them near the staying places of migrants.
- Pregnant women should also be provided food supplements. Under Sindh govt ration scheme, food items were distributed among pregnant women. The scheme should be revived, and similar schemes should also be introduced by the Punjab government as well.
- Most of the women in both districts are involved in agriculture either as labourers or as small landholder farmers. Small landholders either have less production of crops or they get very low amount upon selling. Crop production can be increased by providing women farmers with trainings through district level agriculture extension. The low-cost issue can be solved by removing middleman, whose involvement causes loss to farmers.
- Women should be given chance in decision-making. In most of the cases head of family (men) takes decision related to investments, agriculture, or mobility. Institutions like National Commission on the Status of Women (NCSW) should step in and start awareness sessions for both men and women to include women in decision-making.

National

Currently, linkages between climate change and migration/displacements are missing from the government policies. There is a need to demonstrate this link in our national policies. In this regard, the scope of National Climate Change Policy needs to be extended to climate induced migrations and related issues.

- There is also a need to introduce long-term social protection schemes for the poor and vulnerable communities. Schemes like Benazir Income Support Programme (BISP) does provide some relief to the people below poverty line, but it requires National Identity Cards (NICs) whereas many women (and men too) have lost their identity cards due to floods in areas of the Punjab. They can neither vote, nor can own land. Their issues should be solved by the administration and they should also be included in National Socio-Economic Registries (NSER).
- The government should invest on the projects which can improve mobility between urban and rural areas. This will improve connectivity and will make mobility of women (and men) less painful during disasters.
- National Disaster Management Authority (NDMA) should develop a long-term plan which may overcome the impact of climate change on communities during disasters. There is a need to devise plans and strategies to build community resilience.
- There is also a need to improve early warning system. Though an early warning system is in place in most of areas, timely messages and information cannot be communicated to communities. Local methods such as announcement through mosques, SMS service and radio should be used to inform people about floods. Information should readily be available in local languages at district, Tehsil and Union Council level.
- Government should build community halls/camps for temporary stay of migrants where safety of everyone, including women, might be ensured during disasters. Women caretakers should be posted there to take up the harassment issues.
- In view of the complaints of women harassment, the government should devise a long-term strategy for their protection during disasters. Though laws are in place, mechanisms to implement these laws is required.
- Women needs sanitary pads during disasters. This special need is greatly ignored which causes a lot of stress among them. Such topics are taboo in our society which make women more vulnerable.
- Women suffer from depression, trauma, and anxiety due to climate induced disasters. NDMA and Ministry of National Health Services, Regulations and Coordination (NHSRC) should together devise a long-term health plan for women. Trauma counselling sessions should be organized after disasters to build their resilience.
- Water should be provided door-to-door post disaster, as women have to travel long distances to fetch water. Ministry of Water Resources should devise a plan to provide water to the communities. During disasters, communities do not have access to drinking water which makes them more vulnerable. Their livestock also die due to unavailability of water. Majority is dependent on agriculture and livestock at both the study sites.

- Areas prone to flooding in the Punjab should be declared “non-residential areas” and communities should not be allowed to settle along Indus river. For that purpose, communities should be provided with land ownership to build their houses at safer places.

Regional and International

- South Asian countries are more vulnerable to climate change. Data pertaining to climate induced migrations should be organized while agreements and learnings should be shared between countries so that best practices might be implemented to build adaptive capacities for women. There is a need to build cooperation between countries to manage cross-border migrations and protect rights of international migrants.
- There is a need to share data between countries related to weather stations and water levels in shared rivers to improve early warning systems and protect communities from the devastating impact of flooding.
- Internal institutions and organizations working on women and climate change should focus more on training and capacity building of women.



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